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Sent: Friday, August 18, 2006 4:11 PM

To: Coffey, Scott; Laura Blake; Ragsdale.Dave@epamail.epa.gov; Philip, Pamela; Snouwaert, Elaine (ECY); Traeumer, Drea (ECY); Dee Bailey; Rick Noll; Quasebarth, Thomas; Cox, Timothy; Wagner, Richard; Diaz, Maritza

Cc: Erickson, Karol (ECY)

Subject: RE: TM#2 - Modeling Approach

Hi All -

I'll be out next week so I thought I'd get my thoughts out there for the August 23 milestone: commenting on the model. Based on my review of Technical Memorandum #1 & #2, the discussions during the August 16 conference call, and reviewing other technical research materials, I would suggest we go ahead with development of the WARMF model for Hangman Creek. The only caveat would be if some of the critical hydrological parameters of the initial model were not fixed after the May 2000 peer review. However, from what I could find in the literature and in the technical manual, it seems most of those problems were corrected, or instructions are given how to modify conductivity parameters to account for rains after extended dry periods.

I found that WARMF provides us several features that match the amount of land and water quality data available to us at this time. WARMF appears to provide:

- dynamic water quality output that will simulate better than monthly loads and concentrations,
- landscape and instream sediment and phosphorus transport and fate, including important physical (bank erosion) and biological (periphyton) systems,
- a user-friendly interface (for us) and informative graphical output for public presentation,
- the ability to add data and complexity later as we obtain additional data,
- the ability to construct various BMP and future loading scenarios, and
- built-in compatibility with CE-QUAL-W2 for easier input to the current Spokane River DO model.

The few papers I reviewed seem to indicate that it's on par with other intermediate-complex basin models. It did a bit better job than SWAT in one case on the Napa River and a little worse than BASINS (with WinHSPF) on a southern Tennessee watershed.

The model is supported by the EPA Watershed & Water Quality Modeling Technical Support Center <http://www.epa.gov/athens/wwwqtsc/html/warmf.html>. Since the CDM team is proficient with the WARMF model, it would be a logical choice for them considering the budget and timeline they have to work with in Hangman Creek. I believe it will bring us a long way along the path for understanding the sediment and phosphorus dynamics in the Hangman Creek basin, and help us identify areas where resources need to be applied.

As soon as the team has decided, I'll be very interested hearing what the catchment delineation will be and which model parameters have locally-derived values vs.. literature default values. These will be a dominant factors in how far we can go in interpreting the model output.

Thanks to all of you for your help on this project.

Joe

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From: Coffey, Scott [mailto:CoffeySE@cdm.com]

Sent: Friday, August 11, 2006 4:00 PM

To: Laura Blake; Ragsdale.Dave@epamail.epa.gov; Philip, Pamela; Joy, Joe; Snouwaert, Elaine (ECY); Traeumer, Drea (ECY); Dee Bailey; Rick Noll; Quasebarth, Thomas; Cox, Timothy; Wagner, Richard; Diaz, Maritza

Subject: TM#2 - Modeling Approach

Good afternoon TMDL modeling team.

Technical Memorandum #2 that describes TMDL model selection and approach for the Hangman Creek (Latah) Watershed is attached.

Also attached is an agenda for a conference call to discuss the modeling approach.

The call is scheduled on August 16, 2006 per project timeline as discussed at the kickoff meeting.

We have set a start time for this conference call at 10am. Call-in details are provided at the top of the agenda.

Best Regards,

Scott

<<Technical Memorandum 2 - Modeling Approach.pdf>>

<<Hangman_TMDL_Model_Approach_Conf_Call_Agenda.pdf>>